BEFORE THE KANSAS WORKERS COMPENSATION APPEALS BOARD

PAUL D. CARDWELL, DECEASED	)	
Claimant	)	
V.	)	
	)	Docket No. 1,059,142
VIRGIN OIL TRANSPORT	)	
Respondent	)	
AND	)	
	)	
GREAT WEST CASUALTY COMPANY	)	
Insurance Carrier	)	

ORDER

Respondent and its insurance carrier (respondent) requested review of the February 4, 2015, Award by Administrative Law Judge (ALJ) Rebecca Sanders. The Board heard oral argument on June 2, 2015.

APPEARANCES

Jeffrey K. Cooper, of Topeka, Kansas, appeared for the claimant. Timothy G. Lutz, of Overland Park, Kansas, appeared for respondent.

RECORD AND STIPULATIONS

The Board has considered the record and adopted the stipulations listed in the Award.

ISSUES

The ALJ found claimant's Duragesic (Fentanyl) use was not the prevailing factor for claimant's October 25, 2011, motor vehicle accident, and that it was just as likely claimant fell asleep due to the early morning hour or that claimant was unable to see due to a lack of lighting or he misjudged the road and ran his truck off the road. Claimant's claim was found compensable and his dependents entitled to compensation.

Respondent argues the ALJ erred in relying on the opinions of Dr. Parmet and that none of claimant's medical experts offered a credible medical opinion based on any degree of medical probability about the prevailing factor of the accident which resulted in

claimant's death. Respondent requests the Board reverse the Award and find that claimant's use of Fentanyl and the resulting toxic levels of the drug in his system post-mortem, were the prevailing factor in rendering claimant unconscious or dead, causing the accident and his death.

Claimant's counsel contends respondent's experts are not credible in that they relied on an incorrect understanding of claimant's crash and relied on inconclusive data regarding Fentanyl. Claimant's counsel argues the Award should be affirmed.

The issues on appeal are:

1. Did claimant's accident and resulting death arise out of and in the course of his employment with respondent?

2. Was the deceased claimant's use of Fentanyl for a personal medical condition, the prevailing factor in causing the October 25, 2011, motor vehicle accident and fatality?

FINDINGS OF FACT

Kristyana Kohman, formerly Kristyana Cardwell, is a nurse who married claimant on November 9, 1996, and was married to him until his death on October 25, 2011. Ms. Kohman and claimant had two children, Tori, born December 24, 1996, and Ian, born December 2, 1999.

Claimant began working for respondent in April 2011 as a truck driver. This was his second time working for respondent. Claimant had been a truck driver since 1993. Claimant was killed in a motor vehicle accident, while driving for respondent, on October 25, 2011, at approximately 4:45 a.m. Ms. Kohman testified she spoke with her husband at 3:00 a.m. that morning as was their routine when he was on the road. He would call her every morning to tell her his truck was loaded and he was on the road or on his way home or just to say good morning. She did not notice anything out of the ordinary with claimant when she talked with him that morning.

When Ms. Kohman learned her husband was killed[1] in an accident, she drove to Topeka. It was her understanding that the lights on the highway were not working at that time because vandals had removed the copper wiring from the lights. This affected the area of the highway just around the first bend as a vehicle comes into downtown Topeka, on I-70. The conditions on the day of the accident were dry and clear at 66 degrees. There were no tire or braking marks on the roadway before the site of the impact and it was

[1] Claimant's official cause of death was systemic crush injuries in a single vehicle accident on the highway at I-70 at the Adams Street intersection in Topeka, Kansas.

concluded claimant made no sharp turning movements before impacting the concrete wall.

Claimant's medical history indicates he first came under the care of board certified family practice physician William Short, M.D., in 2009. Claimant was treated for prostate cancer and for a mass in his left leg. As part of his treatment, claimant was taking hydrocodone, but was not having sufficient relief of his pain. Claimant was first prescribed 25 microgram (mcg) Fentanyl patches on March 5, 2010, for post surgery pain in his leg from the removal of a tumor in his femur. Claimant's Fentanyl prescription continued to be provided by Dr. Short for chronic pain in his shoulder, back and leg.

Ms. Kohman testified she, her daughter and claimant applied the Fentanyl patches to claimant's body. Claimant was to change his patch every three days.[2] They kept track by writing the date the patch was applied and when it needed to be changed, directly on the patch. Whoever applied the patch also put their initials on it. Claimant had a patch on his arm the day he died, but she did not know whose initials were on it. The placement of the patches was alternated between both arms because patches were not supposed to be placed on the same area every time. Ms. Kohman testified if the patch would not stay on, it would be adhered with cloth or paper tape. She testified this tape was breathable. She indicated this had been their practice for a year and a half during which time she did not notice claimant having any problems or adverse effects with the medication from taping over the patch.[3] If a patch is damaged it cannot be used. If a patch comes loose it cannot be reapplied. She acknowledged these things will affect the absorption rate of the medication.

Ms. Kohman testified claimant had no difficulty driving while using the patch. At the time of the accident, claimant had graduated to 100 mcg patches. He displayed no side effects and she was not concerned for claimant when he left town on October 24. Ms. Kohman indicated claimant was also taking hydrocodone and tramadol for pain. Claimant also took medication for depression and used a CPAP machine for sleep apnea.

She agreed Fentanyl could be addictive and that a change in the application schedule could affect absorption, but she was not aware that taping over the patch versus taping the edges could also affect absorption.

> Q. Do you know if a use of a Fentanyl patch is addictive or the medication can be addictive?
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> A. I would -- yeah, it could be addictive I guess.

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[2] Although the patches were to be changed every three days, they would not stop working at that time but would simply dispense less medication than prescribed.

[3] R.H. Trans. at 53.

> Q. Okay. Do you know if use of the Fentanyl patches, the application schedule, if it is interrupted or uninterrupted whether that can affect or impact the absorption rates?
>
> A. Yes.
>
> Q. Do you know if taping over the entire patch versus just taping along the border or edges of the patch can affect the absorption rate of the medication?
>
> A. At that time, no. I do now.
>
> Q. What do you know now?
>
> A. That it can affect the absorption.[4]

Ms. Kohman confirmed that from the day claimant first started using the patches to the date of his accident, claimant did not have enough patches to change them every three days, so there would be times he would wear the same patch until a replacement was available. She testified they tried not to do this, but paperwork shows this happened regularly. This did not account for the number of patches that fell off early or might have been damaged from the start and were not usable. It also did not take into account the times claimant was in the hospital for his cancer and the medical staff used hospital medication.

Dr. Short performed claimant's DOT physical after surgery and cleared him to return to work for respondent. Ms. Kohman indicated she never had a conversation with Dr. Short about claimant using the Fentanyl patches while driving, nor could she say if claimant ever had a conversation with Dr. Short about using the Fentanyl patches while driving. She also did not know if anyone with respondent knew claimant was using Fentanyl patches while he was working for them. Claimant last filled his Fentanyl prescription on September 19, 2011, and received 10 patches of 100 mcg.

Sharon Davies, respondent's owner, testified claimant was an employee of respondent as a truck driver beginning April 7, 2011, and until his death on October 25, 2011. The company was started in 2007 and transported oil daily for two construction companies. The company had two dedicated drivers, claimant and Rory Britt, who drove to Bonner Springs to pick up oil and bring it into the Manhattan/Junction City area. These trips were made daily.

Ms. Davies testified claimant's primary duty was to transport oil. The truck claimant was driving had no mechanical issues and had undergone routine inspection and maintenance on October 10, 2011. Claimant's delivery time was usually around 7:30 a.m.,

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[4] R.H. Trans. at 48-49.

so he would leave Junction City around 3:00 a.m. and head to Bonner Springs, pick up his load and then head back to Junction City. Ms. Davies testified claimant worked five to six hours a day.

Ms. Davies was involved in the day-to-day operations of the company, which was a seasonal operation. Before claimant was hired, he underwent a DOT physical on January 17, 2011, with Dr. Short. Claimant also underwent a pre-employment, five-panel drug test as required by DOT. The drug test was negative. According to Ms. Davies, at his interview, claimant did not inform her of any ongoing health issues, nor did he inform Ms. Davies that he was taking pain medication. Ms. Davies indicated she did not know claimant was using Fentanyl patches to control pain. Ms. Davies indicated she never even saw the pain patches on claimant's arm.[5]

> Q. You didn't personally observe anything in the activities or speech or driving habits of Mr. Cardwell that caused you to be concerned in any fashion prior to the injury, did you?
>
> A. No, none.[6]

Ms. Davies indicated the first she learned of claimant's Fentanyl usage was after the October 25, 2011, fatal accident.

She testified that had she known about claimant's use of pain medication she would have required a doctor's note assuring her that it was safe for claimant to operate the work vehicle. This would have been in addition to the DOT clearance. She had no information that Dr. Short didn't follow proper procedure in issuing the DOT certificate to claimant.

Ms. Davies was in contact with the drivers daily via cell phone, text or in person. The last time she saw claimant in person was the Friday before the accident. She handed out paychecks and inquired how things were going. There was no report of any problems with the truck or the trailer. She also indicated claimant had no complaints about the job or its physical requirements. Until the day claimant died, Ms. Davies was satisfied with the work claimant was doing for the company. Ms. Davies indicated when the accident occurred claimant was on the appropriate return route to Junction City.

At no time was Ms. Davies informed of any mechanical issue or vehicle defect causing or contributing to the accident. She was also not informed that the lights at the corner of the highway were out because of a copper theft. Respondent ceased operations in August 2012.

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[5] Davies Depo. at 16.

[6] *Id.* at 34.

William Short, M.D., has been practicing family medicine in Abilene since the fall of 2000. Dr. Short treated claimant for sleep apnea, insomnia, prostate cancer, a tumor in the left knee, carpal tunnel syndrome and depression. Claimant also had a fatty liver and liver enzyme problems. At no point did Dr. Short feel claimant needed to see a specialist for his liver problems. Claimant was diagnosed with sleep apnea on October 9, 2009. Claimant developed prostate cancer in 2010 and had problems with a mass in his left leg. He was referred for treatment of his cancer to Dr. Long and for evaluation of the leg mass.

Dr. Short testified claimant was first prescribed the patches on March 5, 2010, by one of his partners, relating to claimant's various pain issues. Before the patches, claimant had been taking oral pain medication. Dr. Short indicated the criteria for determining if someone is a candidate for pain patches is "if they're getting enough short acting oral pain medication to substantiate a need for something stronger" and, because the short acting oral medications are frequently abused, they try to minimize ever increasing doses and go to something such as a patch.[7] Dr. Short indicated his office uses patches frequently for treatment of chronic pain.

The patches that were prescribed started out at 25 mcg and over time were increased as claimant's pain increased. Dr. Short testified the first dosage is to minimize the side effects of the pain and then, once the patient is accustomed, the dosage is increased to manage the pain. Ultimately, claimant's dosage was increased to 100 mcg.

The doctor noted that when claimant first started taking hydrocodone for pain, he experienced drowsiness, a side effect that is common for some when they first start taking it.

On March 5, 2010, claimant was prescribed ten 25 mcg Fentanyl patches to be changed every three days for thirty days for pain associated with the tumor in claimant's leg. There were no refills on Fentanyl patches. Claimant had to come back to see the doctor at the end of the prescription period and a new prescription would be written.

On April 6, 2010, claimant was prescribed ten 25 mcg Fentanyl patches to be changed every three days for thirty days. On April 23, 2010, in the middle of this prescription, the dose was increased to 50 mcg.

On May 21, 2010, claimant was prescribed ten 50 mcg Fentanyl patches to be changed every three days for thirty days.

On July 1, 2010, claimant was prescribed ten 50 mcg Fentanyl patches to be changed every three days for thirty days. Claimant was short 4 patches.

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[7] Short Depo. at 9.

On August 3, 2010, claimant was prescribed ten 50 mcg Fentanyl patches to be changed every three days for thirty days. Claimant was short 2 patches.

On September 17, 2010, claimant was prescribed ten 50 mcg Fentanyl patches to be changed every three days for thirty days. Claimant was short 6 patches.

On October 19, 2010, claimant was prescribed twenty 50 mcg Fentanyl patches to be changed every three days for thirty days. Claimant was short 1 patch.

On January 17, 2011, claimant was prescribed twenty 50 mcg Fentanyl patches to be changed every three days for thirty days. Claimant was short 7 patches.

On February 28, 2011, claimant was prescribed twenty 50 mcg Fentanyl patches to be changed every three days for thirty days. Claimant was short 4 patches.

Dr. Short indicated that whether claimant was short patches depended on if and how claimant used the 25 mcg patches he had left in April 2010, when the dosage was increased to 50 mcg. Dr. Short performed a DOT physical for claimant on January 17, 2011, at which time he had no concern for claimant's ability to operate a motor vehicle over-the-road. His opinion did not change over the course of his treatment of claimant as he found no adverse effects from the patches he considered to be therapeutic treatment.

On March 22, 2011, claimant's dosage was increased to 75 mcg. If claimant were using his patches correctly he should have had 3 patches of 50 mcg left at that time. Dr. Short indicated that if claimant were using the patches correctly, he would not be able to double up on those patches to get 75 mcg. Claimant got another prescription for 75 mcg on April 21, 2011. Claimant was short 6 patches. He was given more patches on June 6, 2011, and another batch of patches on July 1, 2011, and then again on September 1, 2011. Claimant was short 11 patches. His dosage was increased to 100 mcg at this time. Dr. Short indicated it was possible claimant continued to have pain at the 75 mcg because he not using them.

Claimant only received five 100 mcg patches on September 1, but did not come back for more until September 19, 2011, which meant he was short 1 patch if he were changing them every three days. This was the last time claimant received any patches. By the doctor's calculations, from September 19, 2011, to the accident on October 25, 2011, claimant would have been short on patches. However, based upon the records of when claimant received prescriptions for the patches, he was not changing them every three days and getting new ones every thirty days. Dr. Short was not aware of this before his deposition, but conceded that, based on the records, it appeared that way.[8] He testified he would be concerned claimant would have withdrawal symptoms or adverse effects if he

[8] Short Depo. at 52.

were to miss a few days. But, he was not concerned about claimant because he had built up a tolerance to the medication and was also taking something for breakthrough pain, such as hydrocodone, tramadol and other pain medications.

Dr. Short testified the patches were prescribed to claimant for his severe leg pain related to the tumor. Claimant's prescription for hydrocodone did not change from February 2010 to the time of his death.

> Q. In general when you start a patient on Duragesic patches for the first time, do you give them certain instructions on use of the medication and application of the medication?
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> A. I don't, I don't personally give them any instructions on application of the patch, other than it should be moved, not placed on the same spot every time. But I do give them instructions, at first it can make you drowsy, you need to not drive until you have become accustomed to it and know how it's going to react with you.
>
> Q. Do you do that as well each time you would increase the dosage levels?
>
> A. Not typically.
>
> Q. Okay. Because increasing the dosage levels can also make a person drowsy and can impact their ability to operate a motor vehicle?
>
> A. It sure could, yes.[9]

It appears monitoring of patch usage does not generally include laboratory testing. But lab tests are run to see if the patient is actually using the patches.

Dr. Short testified the following in regard to Fentanyl and its effects:

> A. As far as continuing it consistently, if you stop it, you could have withdrawal symptoms, which is pretty uncomfortable for patients. And that would be the main thing as far as . . .
>
> Q. And if you stop it, have withdrawal symptoms and then reinitiate the patch you could also, it could change the absorption rate, it could cause other problems, including what we've been talking about, respiratory depression?
>
> A. Yes, if he went back to a dose that was probably enough to do so, yes.[10]

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[9] *Id.* at 29-30.

[10] *Id.* at 35-36.

. . .

Q. And proper dosage, or proper dosing of Fentanyl patches is critical with a patient; is it not?

A. Yes.

Q. Because if you overdose that can be fatal?

A. Yes.[11]

. . .

Q. Okay. So for an example, Mr. Cardwell, you saw him on October 21st, at that time he seemed at least according to your testimony, to be doing okay; correct?

A. Yes.

Q. But that doesn't rule out the possibility or probability, even, that on October 25th, 2011, he went into sudden respiratory depression because of the medication in his system, does it?

A. Well, I guess it doesn't rule it out, no.[12]

. . .

Q. Okay. Would you agree with me that the levels of Fentanyl in Mr. Cardwell's blood tissue and in his liver post-mortem was of a critical level?

A. In a narcotic naive patient I would say that.

Q. Okay. That was a high level of Fentanyl, the critical question is whether or not that was a therapeutic dose or a critical dose, correct?

A. Yes, I guess so, yes.

Q. And one of the questions is whether or not he was tolerant of the medication or naive of the medication?

A. Yes.[13]

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[11] *Id.* at 37.

[12] *Id.* at 38.

[13] *Id.* at 39.

Dr. Short admitted he did not perform another DOT physical on claimant after the Fentanyl patches were increased to 75 mcg and then to 100 mcg.[14] He also did not read the accident report and does not know the specifics as they relate to the workers compensation claim.

Dr. Short met with claimant on October 21, 2011, just a few days before claimant's death. Dr. Short had no concern about claimant's ability to physically operate an over-the-road vehicle. He felt claimant's usage of the patches were adequately supervised and did not feel they were a contributing factor in claimant's accident. He testified that 100 mcg is the highest dose produced in the patches, but not the highest dose that could be prescribed as anything over 100 requires additional patches. For example if 125 mcg were prescribed the patient would use a 100 mcg patch and a 25 mcg patch at the same time.

At the request of claimant's attorney, Allen J. Parmet, M.D., a clinical practicing toxicologist and a certified medical review officer for the Department of Transportation, reviewed claimant's medical records. He opined claimant was appropriately prescribed Fentanyl by his healthcare provider, Dr. Short, and found no indication of any impairment caused by the chronic use of the Fentanyl for pain control. Dr. Parmet concluded, and he testified, there was no evidence the Fentanyl contributed to claimant's accident or impaired claimant. He testified the basis for his opinion is his "experience in teaching and training in aerospace medicine and toxicology; the literature and the guidelines of the regulations; his doctors' own notes and records documenting the use of the medication, no documentation of impairment, issuing of the medical certificate in accordance with the guidelines; and finally the postmortem toxicology that demonstrates the Fentanyl was at the therapeutic level for the dose prescribed."[15]

It is Dr. Parmet's understanding that claimant was prescribed Fentanyl for chronic pain due to prostate cancer. It is also his understanding that Dr. Short was monitoring claimant's use of the drug. Dr. Parmet opined Dr. Short's monitoring of claimant was appropriate. He also opined that Fentanyl is not a disqualifying drug for a DOT physical, but it has the potential to prevent DOT medical clearance from being issued.[16]

> Q. . . . What was your opinion reviewing the records and the source material, as to the amount of medication in the liver, the liver concentration?
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> A. Well, when you talk about something being too high with narcotics, particularly opiate groups, you have to take into account the experiencing individual and

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[14] *Id.* at 54.

[15] Parmet Depo. at 14-15. Note: DOT federal regulations are called guidelines. *Id.* at 57.

[16] *Id.* at 9.

whether they're naive or adapted to the medication. Because there's a concept of what's called tolerance with opiates. The amount of opiate that would kill a naive individual may provide a modicum of pain relief to a tolerant individual.

The same thing is true of abusers. Abusers typically continuously increase their dose of opiates because they're tolerant of it, and so they will very rapidly increase that for the same reason. It has to do with both changes in the brain and how the brain responds to opiates, as well as metabolism of opiates, which is primarily in the liver.

Q. And Mr. Cardwell's liver level was 44 nanograms; is that correct?

A. That's correct.

Q. Would that be in a therapeutic range, in your opinion, Doctor?

A. I think when you use the model that 122 is equivalent to a blood level of 6.1, 44 should be equivalent to something around under 3 micrograms per liter in the blood.

Q. And so that would be consistent with the blood level?

A. It could be consistent. There are some changes that can occur. They're shifting between what are called compartments in the body, so the amounts in the different organs may not match up exactly because of the way the drugs shift between these compartments. And there are also some changes that occur postmortem as chemicals shift in and out of the compartments.[17]

Dr. Parmet acknowledged claimant was evaluated for sleep apnea, but he didn't know if claimant was officially diagnosed, or if claimant used a CPAP machine.

Dr. Parmet was not sure whether claimant had a drug testing contract with Dr. Short because it was not as widely recommended then as it is now.

Dr. Parmet considered claimant tolerant and not naive in regard to his use of Fentanyl.

Q. Do you agree, regard -- in a naive individual that fentanyl – fatal levels of fentanyl start at 3.0 nanograms in the vitreous fluid?

A. Yes.

Q. And do you agree that, in a naive individual, that fatal concentration levels of fentanyl and liver profiles are between 5.9 and 7.8 nanograms, with an average -- excuse me, 78 nanograms, with an average of 37 nanograms.?

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[17] *Id.* at 11-13.

A. That's correct.

Q. And you further agree that tolerance of a narcotic medication -- and specifically, tolerance of fentanyl – is reversible?

A. Correct.

Q. And in fact, tolerance of fentanyl is reversible in a relatively short period of time, is it not?

A. Well, compared to other opiates, yes.

Q. Do you also agree, Doctor, that the primary concern with the use of fentanyl in an individual is respiratory arrest?

A. Yeah. This'll – it'll -- a level of 3 or 3.6, you would be dead in minutes.

Q. Respiratory arrest with the use of fentanyl causes the brain to stop functioning?

A. You stop breathing. And you're dead within minutes; you are unconscious within seconds

Q. You become unconscious because the brain's not functioning and you're not getting oxygen to the brain?

A. Correct.[18]

Dr. Parmet testified that absorption is a function of how much chemical gets in the body, therefore if the patch is not appropriately placed it will impact the absorption of the medication. He indicated if someone were to cover the entire patch as opposed to taping down the edges it could change the absorption level depending on the particular type of patch, as most are designed to have an impermeable outer surface. He indicated claimant's patches were self-adhesive so they should not be removed during the duration of use. If the patch were to be covered with tape it could alter the effect the patch has on the body and reduce the dose. Also an improperly applied patch, over time, could change a patient's tolerance level.

Dr. Parmet admitted he had not seen claimant's accident report and did not know the specifics of the accident. He testified he was easily able to rule out claimant's use of Fentanyl as the prevailing cause of the motor vehicle accident. The most significant information for Dr. Parmet was that Dr. Short had no concerns about claimant and cleared him to drive a commercial vehicle, which is a huge responsibility.

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[18] *Id.* at 41-42.

Christopher Long, Ph.D., a forensic toxicologist with the Saint Louis University School of Medicine, Department of Pathology, was asked to evaluate postmortem liver tissue and vitreous fluid[19] samples to determine what role, if any, drugs or alcohol played in claimant's accident and death. Claimant's samples were tested for alcohol and other volatiles. An immunoassay screen was run on the vitreous fluid and complete screen was completed on the liver tissue. Both revealed Fentanyl.

Dr. Long wrote the following:

> At autopsy he was found to have a patch with clear gel on the left deltoid region. There was cotton tape covering the patch. This is most reasonably the fentanyl patch that was prescribed. Fentanyl is classified as a synthetic narcotic analgesic.
>
> The toxicology performed on the blood and liver samples taken at autopsy showed excessive fentanyl in Mr. Caldwell. The blood concentration was 36 nanograms/ml (ng/ml) with fatal starting at 3.0 ng/ml. [[20]] However, the liver demonstrated 44 ng/gm, with fatal concentrations being reported at 5.9 to 78, average 37 ng/gm. This clearly shows a toxic concentration in Mr. Caldwell (Baselt, 2011).
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> The concentration of fentanyl in the liver, being within the range that has resulted in fatalities, would within a reasonable degree of scientific and medical certainty produce impairment. This concentration of fentanyl precludes prescribed use. The dressing applied over the patch may have been causal to excessive administration of drug.
>
> The Department of Transportation has established drug concentrations in the urine to establish drug use. There are only 5 classes of drugs, amphetamines, opiates (codeine, morphine, 6 monoacetyl morphine), phencyclidine, cannabis and cocaine. This would not serve to be acceptable in any postmortem case as it is concerned with only 5 classes of drugs. This procedure does not include fentanyl or oxycodone (or similar narcotic analgesics) and is therefore severely lacking in the establishment of drug use/abuse.[21]

Dr. Long indicated that the effect of toxicity is respiratory depression of the central nervous system. In discussing the effects on the central nervous system and respiratory depression, he indicated that would render claimant asleep or unconscious.

> Q. . . . is it your opinion that, based upon the motor vehicle accident report that did not find any brake marks or sharp steering maneuvers that Mr. Cardwell made to try to avoid impacting the concrete median wall, is it your opinion that he was

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[19] This is the fluid in the eye that keeps the eyeball round.

[20] Dr. Long testified this should read vitreous fluid concentration level 3.6 ng/ml.

[21] Long Depo., Ex. 2 at 2.

> unconscious because of the fatal levels of fentanyl in his system before the impact in the resulting accident?
>
> . . .
>
> A. Yes. Actually, the fact that there were no attempts to correct, no turning, no tire marks, no skid marks, no brake marks, that would show that he was not able to drive the motor vehicle, and he was either unconscious and potentially dead.[22]

According to Dr. Long, claimant's level of Fentanyl exceeded the average fatal concentration and could have killed him, or at the very least would have been toxic to him, producing impairment. Dr. Long disagreed with Dr. Parmet that claimant's Fentanyl levels were therapeutic, because Dr. Parmet was comparing the liver levels with the eye fluid levels on a equal basis and that should not be done. Dr. Long also disagreed with Dr. Parmet that there was no evidence the patches contributed to the accident and claimant's death stating:

> A. Well, when you drive a truck into a cement median and flip it over and you don't try to avoid the accident, that goes to something else is going on here.
>
> And when you look at the concentration of fentanyl present in the liver, that certainly explains it. He could have passed out; he could have been comatose; he could have been dead.[23]

He voiced concern that claimant was covering the patches with tape, indicating that covering it increases the temperature underneath the patch, opens pores and allows a much greater amount of Fentanyl to go transdermal.

Dr. Long did believe Dr. Short appropriately prescribed and monitored claimant's Fentanyl. He indicated the therapeutic blood level for a living individual for a 100 mcg patch is 1.9 to 3.8 ng/ml or micrograms per liter.

Claimant's blood was never tested. Only his liver and eye fluid were tested postmortem. Dr. Long indicated he referred to blood levels as a comparison to the liver and eye fluid levels.

Karl Rozman, Ph.D., a former toxicologist for the University of Kansas Medical Center, reviewed the autopsy and toxicology reports and wrote claimant had lethal levels of Fentanyl in him and should not have been driving any vehicle.[24] Dr. Rozman opined

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[22] *Id.* at 16-17.

[23] *Id.* at 22.

[24] Rozman Depo., Ex. 2.

that, to some extent, claimant was addicted to Fentanyl. Dr. Rozman testified that Fentanyl is a powerful narcotic that is 100 times more potent than Morphine.

Dr. Rozman noted some controversy in the pharmacy records as to the schedule of application of the dermal patches. According to sworn testimony by claimant's wife, the application of the dermal patches was largely uninterrupted. However, pharmacy records indicate some irregularity in the filling of prescriptions. Dr. Rozman felt this was a critical point from the perspective of the extent of addiction, because tolerance of opiates is reversible and that of Fentanyl on a much shorter time scale than that of morphine. He determined claimant was addicted to some extent, because otherwise he could not have tolerated a level of 3.6 ng/ml of Fentanyl. The extent of claimant's tolerance however is unknowable, since he is dead. Finally, Dr. Rozman wrote that, while some aspects of claimant's opiate addiction are unknowable, it is certain that his accident was caused by Fentanyl intake resulting in him falling asleep at the wheel. This was indicated by a lack of skid marks according to the police report, which is the proximate reason for the lack of attempt at corrective action by claimant.

Dr. Rozman testified that the levels in the vitreous fluid are not the same as, or equal to, a blood concentration, as the blood level would be much higher, up to ten times higher. This is because blood absorbs faster and there is a lag time before anything gets to the vitreous fluid, which is aqueous and does not absorb as fast as blood.

> Q. Doctor, in your opinion did Mr. Cardwell's use of Fentanyl cause or contribute to cause the October 25, 2011, motor vehicle accident and resulting death?
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> A. Yes.
>
> Q. Doctor, in your opinion based upon the postmortem concentration levels of Fentanyl in Mr. Cardwell's system, do you have an opinion as to whether or not those levels rendered Mr. Cardwell impaired at the time of the October 25, 2011, motor vehicle accident, and his resulting death?
>
> A. Yes.
>
> Q. And what would your opinion be, Doctor?
>
> A. My opinion is that it did contribute.
>
> Q. Was it your opinion that Mr. Cardwell was impaired at the time?
>
> A. He was impaired.[25]

[25] *Id.* at 13.

Dr. Rozman found the prevailing factor for the accident and claimant's death was claimant's use of Fentanyl above therapeutic levels, resulting in impairment. He disagrees with the opinions of Dr. Short, Dr. Parmet and Dr. Murati that claimant's medications were at therapeutic levels. Dr. Rozman admitted he has never prescribed or monitored patients taking Fentanyl and would leave that task to the medical doctors. He indicated he wasn't aware that Dr. Short, claimant's treating physician, gave claimant a DOT physical and cleared him to drive. He knows of no DOT restrictions regarding the use of Fentanyl.

> Q. All right. What is, Doctor, the physiological reaction to an overdose of Fentanyl?
>
> A. C & S depression.
>
> Q. That means they stop breathing?
>
> A. Eventually. Eventually they stop breathing.
>
> Q. Okay. And on a person that is not tolerant of the Fentanyl, that happens pretty much instantaneous with the application of medication, if it's too high a level; is that an accurate statement, Doctor?
>
> A. Yes, very soon.
>
> Q. So if Mr. Cardwell was going to have that reaction, would you expect that reaction to have occurred at the time patch was placed on him or shortly thereafter, not a day or two later?
>
> A. I suppose hypothetically, yes.[26]

At the request of respondent, Steven Hendler, M.D., was asked to review claimant's medical records and render an opinion on the cause of claimant's accident and resulting death.

Dr. Hendler opined the following:

> In summary, Mr. Cardwell was involved in a motor vehicle accident which resulted in his death. Postmortem examination showed markedly elevated levels of fentanyl in the blood and in the liver. The following conclusions are reached:
>
> The prevailing cause of death in this case, in my opinion, is fentanyl overdose. Although the patient was opioid-tolerant, the reference literature and information provided by the manufacturers indicates that respiratory suppression can occur at any time. Although respiratory suppression occurs less commonly in opioid tolerant individuals, this situation is notable for a recent increase in the Fentanyl patch

[26] *Id.* at 23.

> dosing relative to the time of the accident. The long half-life of the medication may have would potentially have resulted in a buildup of blood tissue levels of the medication and the use of tape (the manufacturers' instructions specifically indicate not to cover the patch with tape but rather to tape down the edges if tape is to be used at all) could have altered the absorption of the medication, making the levels much less predictable. The patient also was using multiple other medication concomitantly. Although the lab testing was negative for hydrocodone at the time of Mr. Cardwell's death, routine laboratory toxicology screening does not normally test for tramadol or clonazepam. The testimony given by Ms. Kohman suggests the patient did use the clonazepam on a regular basis. The concomitant usage of this medication which is, in essence, a tranquilizer, frequently results in a potentiated effect of the primary analgesic in this case, Fentanyl.
>
> It is noted that the patient started run at 3 o'clock in the morning on the day of his death. This would suggest that he was up well before 3 a.m. The fact that the patient did not use any kind of respiratory device for treatment of the sleep apnea in combination with the multiple other medications, the use of the Lupron for chemotherapeutic purposes, and the prior history of motor vehicle accident (albeit alcohol related) all support a patient at extremely high risk for waking-hour somnolence. Again, the toxic levels of fentanyl in the fluids and tissue reinforce this conclusion; in combination with the likely effects on alertness, the effects of the respiratory suppression from the overdoes of Fentanyl would have been even more pronounced.[27]

Dr. Hendler is experienced with Fentanyl patches as he has 10-15 patients at any given time using the patches to manage chronic pain. He indicated that the patch doses are more liberal for patients with cancer than for those with non-cancer related issues. He testified that oral narcotics are also prescribed with the patches to help with breakthrough pain because they absorb quickly and are rid of by the body quickly, where the patch is there all the time and is used as the baseline medication.

Dr. Hendler indicated that when he prescribes the patches he gives specific instructions on their use, which includes placement, disposal, and what to avoid such as excessive heat and to not cover them with routine tape which alters the delivery of the medication. The patch must be able to breathe to be effective. Only occlusive dressings should be applied to hold the patch in place.

Dr. Hendler noted claimant was taking an antidepressant and an antianxiety medication and he was concerned how those would affect claimant while using the Fentanyl patches. His concern was that "the potential side effects are additive and that the medicines can produce higher levels of each other by virtue of the fact that the combined

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[27] Hendler Depo., Ex. 2 at 5-6 (Dr. Hendler's Dec. 20, 2013, report).

dosing can't be eliminated as quickly."[28] There was also the added effect it would have on alertness, mental cognitive function and on breathing.

Dr. Hendler testified to his understanding of DOT guidelines as they pertain to truck drivers and the use of synthetic narcotics. Truckers should not be driving while using synthetic narcotics unless there has been an assessment to rule out any adverse effects or anything that would potentially affect their driving. He also indicated the drivers should be made aware of the potentially negative effects of the medication on driving. He did not know if it would be necessary for a driver to recertify with DOT if there were an increase in a narcotic prescription. Dr. Hendler did acknowledge his familiarity with the DOT guidelines and regulations was limited to those that might overlap with the patient activity that he has performed. He did not further explain his understanding of the DOT.

Dr. Hendler was concerned with claimant's Fentanyl increase to 100 mcg from 75 mcg so quickly and whether this was due to an intolerance to the medication or some other medical issue. He questioned why claimant was in so much pain that he needed another increase in his Fentanyl dose so soon after his last increase and after he had been cleared to drive through his DOT physical.

Dr. Hendler indicated he had no reason to dispute the conclusions reached by Dr. Long with respect to the dosing levels relative to fatal levels of Fentanyl. Specifically, he stated, "What I would say is that my opinion is that the fentanyl overdose, whether in isolation from the other medications or in combination with the other medical issues, occurred causing a change in mental status either directly or because of suppression of breathing, and it was that set of events that lead to the accidents."[29] He felt the claimant's levels were probably multifactorial due to a combination of the dosing and the other medication claimant was taking at the time.

> Q. Do you know what the therapeutic level or range for fentanyl as used under the circumstances as Mr. Cardwell would be as far as the concentration in the liver, Doctor?
>
> A. No, sir.
>
> Q. Dr. Parmet's testified that 44 would be within the appropriate therapeutic level, range level in the liver. Do you have any way to agree or disagree with him?
>
> A. Just the information provided by Dr. Long.

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[28] *Id.* at 19.

[29] *Id.* 46.

Q. Okay. Certainly if Dr. Parmet is correct as to the therapeutic levels, there would be no overdose of fentanyl by Mr. Cardwell?

MR. LUTZ: Objection.

Q. (By Mr. Cooper) Am I correct?

MR. LUTZ: I'm going to object. That contradicts the medical literature.

A. Well, there would be no overdose, that is correct.[30]

It was Dr. Hendler's understanding, upon reading the coroner's report, that the cause of claimant's death was extensive crush injury with evisceration and amputations, with fatal levels of Fentanyl in his blood and tissue.

There were no signs that claimant took corrective measures to avoid impacting with the concrete median, which supports the theory that claimant was impaired or unconscious at the time.

At claimant's attorney's request, Pedro, Murati, M.D., was asked to review claimant's medical records for his opinion on whether or not the Fentanyl patches claimant was prescribed likely contributed to the accident and claimant's death from the motor vehicle accident.

Dr. Murati opined the following:

> . . . it is clearly documented that Paul was started on Duragesic 25mcg one patch every three days and then augmented to Duragesic 100mcg one patch every three days gradually, slowly increasing his dosage over a 19 month span of time. The concentrations of fentanyl found in the claimant's system would in fact prove lethal in an opiate naive patient. However, as stated previously, Paul's Duragesic patch was slowly raised to get him to the 100mcg that he was prescribed and was documented to be wearing at the time of his work related motor vehicle accident which resulted in his death. If this claimant was placed initially on Duragesic 100mcg, then I would agree that the medication in his system may have contributed to his motor vehicle accident. This is not the case, it is apparent in his medical records that his body had become accustomed to the medication causing the need to increase his patch in order to adequately control his pain. The only documented instance of mental status changes is of a hypoglycemic event. There is no documented evidence to show that his chronic pain medication, which is of a slow release nature, affected his mentation. Indeed I have hundreds of chronic pain

[30] *Id.* at 56-57.

> patients that are on these types of slow release medications that are mentally acute.[31]

Dr. Murati indicated, based on the medical records, claimant appeared to be well in control of his pain. He also indicated claimant did everything appropriately by starting with a low dose and slowly increasing the dose as his complaints grew. He found nothing in claimant's medical records indicating he should not have been driving a commercial vehicle.

Dr. Murati testified that when he prescribes Fentanyl patches he gives his patients the following instructions: place the patch on clean skin, but not recently scrubbed; watch for side effects such as drowsiness and shortness of breath; stay out of the hot tub and be careful when taking a shower. He does not instruct his patients to not tape over the patches because sometimes it has to be done or else they will fall off. He testified it doesn't matter where you tape the patches because the absorbent membrane is on the inside, therefore the outside can be taped. He testified that the hotter the skin the greater the transmission of medication. Therefore, someone going through radiation would not put the patch over the area where they are receiving the radiation.

Dr. Murati testified he has patients who use Coban wrap or athletic tape to keep their patches in place for 72 hours and that the only problems his patients have is in the summertime when they sweat and the patches fall off. He testified he has one patient for whom he switches medication in the summer to avoid this problem. Ultimately, he found no problems with using tape to keep the patches on.

Dr. Murati indicated a tolerance to a medication can be reversed if you stop taking it for several months. He does not recall ever having a patient where too much medication was prescribed. He testified the current thought process with treating chronic pain is if you have to increase the dose, do so by 50 percent of the previous dose. However, if someone was taking 25 mcg and there were no 12.5 patches, then the dose would be increased to 50 mcg and the patient would be instructed to not take their breakthrough medication if they did not have to. The patches come in five dose levels, 12.5, 25, 50, 75 and 100 mcg. A doctor must be careful if the patient it taking anti-anxiety medication, because it can depress the respiratory drive. Dr. Murati testified that anti-anxiety medication is different from antidepressants, which most patients with chronic pain take.

Dr. Murati acknowledged that, in a person with no chronic pain, the amount of Fentanyl found in claimant would be fatal, but in someone who is opiate tolerant it would not be harmful. Claimant's level of medication could be harmful to someone even with chronic pain, unless that level is arrived at gradually, to avoid sudden death. Dr. Murati does not know the DOT regulations for opioid medication.

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[31] Murati Depo., Ex. 2 at 4.

PRINCIPLES OF LAW AND ANALYSIS

K.S.A. 2011 Supp. 44-501(a)(2)(B) states:

(B) In the case of drugs or medications which are available to the public without a prescription from a health care provider and prescription drugs or medications, compensation shall not be denied if the employee can show that such drugs or medications were being taken or used in therapeutic doses and there have been no prior incidences of the employee's impairment on the job as the result of the use of such drugs or medications within the previous 24 months.

K.S.A. 2011 Supp. 44-501b(a)(b)(c)

(a) It is the intent of the legislature that the workers compensation act shall be liberally construed only for the purpose of bringing employers and employees within the provisions of the act. The provisions of the workers compensation act shall be applied impartially to both employers and employees in cases arising thereunder.
(b) If in any employment to which the workers compensation act applies, an employee suffers personal injury by accident, repetitive trauma or occupational disease arising out of and in the course of employment, the employer shall be liable to pay compensation to the employee in accordance with and subject to the provisions of the workers compensation act.
(c) The burden of proof shall be on the claimant to establish the claimant's right to an award of compensation and to prove the various conditions on which the claimant's right depends. In determining whether the claimant has satisfied this burden of proof, the trier of fact shall consider the whole record.

K.S.A. 2011 Supp. 44-508(d)

(d) "Accident" means an undesigned, sudden and unexpected traumatic event , usually of an afflictive or unfortunate nature and often, but not necessarily, accompanied by a manifestation of force. An accident shall be identifiable by time and place of occurrence, produce at the time symptoms of an injury, and occur during a single work shift. The accident must be the prevailing factor in causing the injury. "Accident" shall in no case be construed to include repetitive trauma in any form.

K.S.A. 2011 Supp. 44-508(f)(2)(B)(3)(A)

(B) An injury by accident shall be deemed to arise out of employment only if:

(i) There is a causal connection between the conditions under which the work is required to be performed and the resulting accident; and
(ii) the accident is the prevailing factor causing the injury, medical condition, and resulting disability or impairment.

> (3) (A) The words "arising out of and in the course of employment" as used in the workers compensation act shall not be construed to include:
> (i) Injury which occurred as a result of the natural aging process or by the normal activities of day-to-day living;
> (ii) accident or injury which arose out of a neutral risk with no particular employment or personal character;
> (iii) accident or injury which arose out of a risk personal to the worker; or
> (iv) accident or injury which arose either directly or indirectly from idiopathic causes.
>
> K.S.A. 2011 Supp. 44-508(g)
>
> (g) "Prevailing" as it relates to the term "factor" means the primary factor, in relation to any other factor. In determining what constitutes the "prevailing factor" in a given case, the administrative law judge shall consider all relevant evidence submitted by the parties.

Claimant passed a DOT physical in January 2011, and was being treated by Dr. Short for chronic pain stemming from cancer in his leg. This treatment necessitated the use of strong pain medication, including Fentanyl patches, which were applied every three days by claimant, his wife or his daughter. The gradual increase in strength of the patches has been both supported and criticized in this record by several healthcare providers. Additionally, the effect of those patches on claimant and his ability to safely drive the truck have been discussed, both positively and negatively.

Dr. Short, Dr. Parmet and Dr. Murati determined the use of the patches was both safe and effective in controlling claimant's pain symptoms from the cancer. Dr. Long, Dr. Rozman and Dr. Hendler determined the dosage of Fentanyl in claimant's system directly affected his ability to safely drive and this high level of medication was the prevailing factor in claimant's accident and death.

While this dispute appears to be almost a standoff in terms of which side has the most experts supporting their position, additional factors must be considered in reaching this determination. First, claimant was examined by Dr. Short only four days prior to the accident. The doctor noticed no problems with claimant. He felt comfortable with claimant continuing to drive the truck. Second, claimant spoke to his wife the morning of the accident, as was their custom and she noticed nothing out of the ordinary. Third, although not conclusive, there apparently was a problem with the lighting on that particular stretch of highway which could have contributed to claimant's inability to judge the road conditions. However, that appears to be more speculation than fact as to its effect on claimant. Finally, the patch claimant was wearing had been applied three days before the accident. The medical testimony indicated any adverse effects from the medication should have shown up within a few hours of the application of the patch.

It is evident that the level of Fentanyl in claimant's system would have been fatal to a naive person, a person not conditioned to the medication. However, claimant had been

using the Fentanyl for 19 months and his level of medication had been properly increased over that period of time. His tolerance level significantly exceeded that of a normal or naive person.

The Board finds the opinions of Dr. Short to be the most persuasive in this instance. He had a long history as claimant's treating physician. He passed claimant on his DOT physical and examined claimant only four days prior to the accident. His office also regularly used the patches in their treatment of chronic pain patients. Dr. Rozman, one of the experts testifying on behalf of respondent, acknowledged he neither prescribed nor monitored patients taking Fentanyl.

The Board finds claimant's use of Fentanyl was not the prevailing factor contributing or causing claimant's accident and resulting death. The award of benefits in this instance is affirmed, as claimant's accident and resulting death arose out of and in the course of his employment with respondent.

CONCLUSIONS

Having reviewed the entire evidentiary file contained herein, the Board finds the Award of the ALJ should be affirmed. Claimant has satisfied his burden of proving his accident and resulting death arose out of and in the course of his employment and that accident was the prevailing factor leading to claimant's death.

AWARD

WHEREFORE, it is the finding, decision and order of the Board that the Award of Administrative Law Judge Rebecca Sanders dated February 4, 2015, is affirmed.

IT IS SO ORDERED.

Dated this _____ day of July, 2015.

_____
BOARD MEMBER

_____
BOARD MEMBER

_____
BOARD MEMBER

c: Jeffrey K. Cooper, Attorney for Claimant
jeff@jkcooperlaw.com
toni@jkcooperlaw.com

Timothy G. Lutz, Attorney for Respondent and its Insurance Carrier
tlutz@wallacesaunders.com
realy@wallacesaunders.com

Rebecca Sanders, Administrative Law Judge